

REMARKS

Applicants thank the Examiner for thoroughly reviewing the application.

Objections to the Disclosure

Applicant has amended the specification to rectify each of the Examiner's objections thereto. Specifically, the specification has been amended to make clear that "+" and "-" as shown in Figures 3 and 4 refer to polarity of the voltages juxtaposed thereto. Further, the specification has been amended to make reference to labels "Short transmission line" and "Long transmission line", which are found in Figure 2. Finally, the specification has been amended to make clear that "I₃" refers to a current depicted in Figure 3, not Figure 4.

With respect to the specification lacking a reference to reference numeral 930, Applicant respectfully directs the Examiner's attention to page 9, lines 7-9, which reads: "The transmission lines **1030** in the circuit of the invention differ in shape from those 930 in Figure 9, but are approximately the same width and total length." It is plain to see that this sentence contains reference to reference numeral 930.

For the foregoing reasons, Applicant respectfully requests reconsideration and withdrawal of the objections to the specification.

Incorporation of Essential Material

Applicant points out that Application No. 08/706974 has already issued as U.S. Patent No. 6,438,394. Applications Nos. 09/040578 and 09/699783 may issue during the pendency of this application. If, however, Applications Nos. 09/040578 and 09/699783 do not issue, Applicant will amend the specification to include the material therein, if appropriate, after allowance of the claims.

Rejection of Claims 1-3, 5, and 6 Under 35 U.S.C. §102(b)

Claims 1-3, 5, and 6 were rejected under 35 U.S.C. §102(b) as being anticipated by United States Patent Number 5,381,117 (Okamura). Applicants respectfully traverse this rejection.

According to the Office Action, Okamura teaches a "shunt capacitor comprising a closed conductive loop," as required by independent claim 1. The Office Action identifies Figure 19 of Okamura as disclosing such a shunt capacitor. Figure 19 of Okamura depicts a resonator structure having an input/output terminal (denoted by reference numeral 7) and an earth terminal (denoted by reference numeral 6). The earth terminal (6) attaches to an external earth electrode (reference numeral 9, shown in Figure 2), which, in turn, attaches to an earth terminal pattern (reference numeral 8, shown in Figure 2). Thus, earth terminal 6 is grounded.

As an initial matter, Applicants point out that a shunt capacitor is a device that exhibits a capacitor-like impedance between a transmission line and ground. A capacitor-like impedance is one that is substantially similar to that of an ideal capacitor (i.e., substantially similar to $1/j\omega C$, where $j=(-1)^{1/2}$, ω =angular frequency, and C =capacitance). Thus, the language of claim 1 reading: "the shunt capacitor comprising a closed conductive loop" requires that a closed conductive loop be a portion of a circuit that appears to exhibit an impedance to ground substantially similar to $1/j\omega C$.

Turning to the closed conductive loop depicted in Figure 19 of Okamura, it is plain to see that this loop does not exhibit an impedance substantially similar to $1/j\omega C$. Applicant concedes that the loop disclosed therein would possess the physical quality of having some capacitance between the coil electrode pattern (identified by reference numeral 4) and ground (identified by reference numeral 5). Nevertheless, this does not render the loop shown in Figure 19 a "shunt capacitor comprising a closed conductive loop," as required by claim 1. The loop therein does have some capacitance, but, the loop does not exhibit an impedance to ground that is substantially similar to $1/j\omega C$, and is therefore not a shunt capacitor. This is the consequence of terminal 6 being grounded.

To summarize, claim 1 requires more than a closed conductive loop having some shunt capacitance in it. Claim 1 requires that the closed conductive loop be part of a circuit that behaves substantially similar to a shunt capacitor.

Because Okamura fails to teach a shunt capacitor comprising a conductive loop, Okamura cannot serve as a proper basis for rejection of claims 1-3, 5, and 6. Therefore,

Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1-3, 5, and 6 under 35 U.S.C. §102(b).

Rejections Under 35 U.S.C. §103(a)

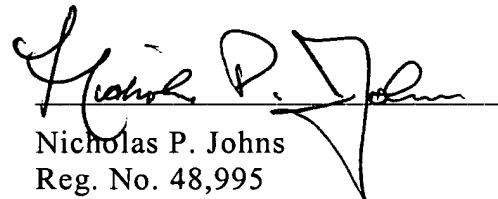
Claims 7-10 and 12-16 were rejected under 35 U.S.C. §103(a), as being obvious in light of Okamura in view of either Takahashi or Schmidt. Applicant points out that these rejections rely upon the proposition that Okamura teaches a "shunt capacitor comprising a closed conductive loop." As discussed above, this is not the case.

To make out a *prima facie* case of obviousness under 35 U.S.C. § 103(a), there must exist some motivation, either generally available to one of ordinary skill in the art or expressly stated in the prior art, to modify the known prior art to arrive at the claimed invention. No motivation has been stated to modify Okamura (or Schmidt or Takahashi) to include "shunt capacitor comprising a closed conductive loop." Further, no such motivation is articulated within any of those references themselves. Thus, Okamura, Takahashi, and Schmidt are unable to support a rejection, either alone or in concert, under 35 U.S.C. §103(a). For the foregoing reason, Applicants respectfully request that the Examiner withdraw the rejection of claims 7-10 and 12-16 under 35 U.S.C. §103(a).

Conclusion

Claims 1-18 remain pending in the application. These claims are believed to be allowable for the reasons set forth above. This amendment is believed to be responsive to all points raised in the Office Action. Accordingly, Applicants respectfully request prompt reconsideration, allowance, and passage of the application to issue. Should the Examiner have any remaining questions or concerns, the Examiner is urged to contact the undersigned by telephone at the number below to expeditiously resolve such concerns.

Respectfully submitted,
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